

# THE SOUTHEAST BALTIMORE PORT INDUSTRY FREIGHT CORRIDOR PLAN

PROMOTING ECONOMIC AND COMMUNITY DEVELOPMENT IN A MARITIME INDUSTRIAL SETTING

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# I. PROJECT DESCRIPTION

Demand for freight delivery in Maryland is expected to double by 2035. Due to the Port of Baltimore's prominent northeast location and the upcoming completion of the Panama Canal Expansion, freight traffic volume is poised to dramatically increase in the region. The ability to safely and efficiently move goods around the Port of Baltimore is vital for national economic competitiveness, as well as that of the region and the City of Baltimore.

To this end, the Baltimore City Department of Transportation (BCDOT), in partnership with the Secretary's Office of the Maryland Department of Transportation (MDOT) and the Maryland Port Administration (MPA) have made over \$30 million in infrastructure investments at the Port of Baltimore and the surrounding area. Additional state investments at the Port approach \$1 billion over the next 6 years. However, without proper planning and infrastructure investments, moving this freight generates unintentional yet undesirable externalities, negatively impacting environmental sustainability and quality of life in nearby communities.

The Baltimore City Department of Transportation seeks to partner with USDOT to complete the final investment in the Broening Highway freight corridor. BCDOT, in partnership with MDOT and MPA, requests \$10 million in Transportation Investment Generating Economic Recovery VII (TIGER VII) grant funds, which represents 36 percent of total project costs. These funds will complete the funding package for a \$27.5 million project that will restore functionality to and enhance a



vital freight network of roads and bridges that connects the Port of Baltimore to regional and national highway systems. This infrastructure is critically necessary to preserve and enhance the economic security of the Port of Baltimore while positioning Baltimore City, The Port of Baltimore, and private partners to meet economic, employment, mobility, housing, and sustainability challenges faced by the City's residents.

The Southeast Baltimore Port Industry Freight Corridor Plan will protect communities and improve quality of life in a mature urban neighborhood by redirecting truck traffic and creating a buffer between residential and industrial land uses. The project is located in Baltimore City, five

miles southeast of downtown Baltimore in an Economically Distressed Area (EDA).

The \$27.5 million in construction spending will increase economic activity in the City by **\$38.8 million** and create an average of **106 jobs** over the four year period, earning a total of **\$14.4 million in salaries and wages**. State, local, and federal tax revenues will increase by **\$3.6 million** over the multi-year construction period.

This project was submitted under the TIGER VI program, but was not awarded funds. This project continues to be a top priority for the Baltimore region, and is being resubmitted accordingly. The TIGER program presents a unique opportunity to

construct this critical infrastructure project, and the window for proactive implementation is diminishing due to the continued structural decline of Colgate Creek Bridge and an increase in freight traffic in Southeast Baltimore.



Oversize/Overweight Trucks Leaving the Port

Baltimore City is currently receiving \$30 million in Map-21 funds for all highway and bridge work within its limits, constraining its resources to only confronting the most pressing repairs needed on its network. The Colgate Creek Bridge merited a portion of these limited City resources, but a full replacement of the bridge has not been cost feasible given the other highway and bridge needs that exist city-wide. Due to the cost of full replacement, temporary repairs were recently performed on Colgate Creek Bridge that will allow the bridge to accommodate non-OS/OW traffic for an estimated four to nine years. While short-term fixes have kept the bridge open, a long-term solution at Colgate Creek Bridge is desperately needed, as growing freight volumes are anticipated to cause rapid deterioration in the next few years.

In the absence of funding to replace Colgate Creek Bridge, which connects Maryland's largest marine terminals (Dundalk and Seagirt) and is vital to freight movement in the corridor, is structurally deficient and will likely require a complete closure in the next four to nine years. As a result of this and other identified deficiencies along approved truck routes, the Port of Baltimore currently lacks direct freight routes for many trucks connecting to I-95.

Compounding this issue, freight traffic is expected to increase as the port industry in Baltimore continues to expand. The Port of Baltimore is a critical driver of maritime commerce in the United States, ranking as the top port in the country in handling autos and light trucks, farm and construction machinery, imported forest products, sugar, and aluminum, and its current status as one of just two east coast ports that can accommodate post-Panamax ships put it in prime position for continued expansion.

The private sector has taken notice of the many benefits of doing business with Port of Baltimore. In 2014, Amazon.com Inc. located a one-million-square-foot business center that will employ 1,000 people near the Port along Broening Highway. A large industrial plot just north of Amazon's warehouse is under contract negotiations for a major new freight tenant. Across the harbor, Under Armour continues to expand its global presence based in Baltimore, with a recent announcement that apparel manufactured abroad will arrive at the Port of Baltimore directly from China for the first time in eight years under a new contract with a shipping company Evergreen. Under Armour is also the company is consider-

ing making Baltimore the destination for six other Asian and Middle Eastern delivery routes, as well. Additionally, Sparrows Point – the 3,100-acre site that was previously home to Bethlehem Steel – is being redeveloped into a major East Coast distribution hub.

Further, two plots of land between Holabird and Boston on the north side have been purchased from a local developer, Chesapeake Real Estate Group. New investment, development, and commercial activity at these locations exemplify continued business expansion at the Port and surrounding area. Additionally, they illustrate that the proposed Holabird Avenue improvements that will create an alternative route for freight are necessary not only for the Port but also for businesses that will occupy these new developments.

These and other major companies, such as the French shipping line CMA CGM who also announced its pending return to Baltimore, produce a major economic impact not only for the region, but for the country as a whole; the Port of Baltimore's success directly impacts the nation's ability to remain competitive in the international import and export marketplace.

**Without the sorely needed replacement of the Colgate Creek Bridge and creation of safe, efficient freight routes to I-95, the economic competitiveness of the Port of Baltimore will be severely diminished. In the short-term, neighboring communities will suffer a significant adverse impact from trucks being forced to re-route into residential communities. In the long-term, the nation will suffer a loss in net economic activity due to the lack of efficient**





Project Area

freight access to the economically critical - Port of Baltimore, making it less competitive in the international market.

The **Southeast Baltimore Port Industry Freight Corridor Plan: Promoting Economic and Community Development in a Maritime Industrial Setting** (Southeast Baltimore Port Industry Freight Corridor Plan) comprises three components that complete strategic investment along the Broening Highway corridor and compliment additional projects underway:

**1. Colgate Creek Bridge Replacement:**

Replace a structurally deficient, functionally obsolete bridge on Broening Highway over Colgate Creek, which will enable trucks to reroute away from residential communities, addressing major impacts upon residents' quality of life, and to more efficiently access I-95. The bridge currently has two of four lanes closed and is weight restricted due to its current physical state of disrepair.

**2. Roadway Improvements Connecting Freight Directly to I-95:** Provide safer, more efficient access between the Port of Baltimore and the interstate system for freight movement without traveling through adjacent residential neighborhoods by improving Keith Avenue and Holabird Avenue.

**3. Complete Streets Improvements:**

Implement complete streets improvements in the residential portion of Broening Highway to further dissuade trucks from traveling through neighborhoods while creating more walkable, bikeable, environments that improve residents' quality of life and safety.

State and local funds will match the TIGER VII grant by **\$13.5 million** for a total of **49 percent** of project costs. Baltimore City has committed **\$11.5 million** in local funds for this priority project. The Maryland Port Administration (MPA) has committed **\$2 million** toward the cost of the project due to the criticality of efficient freight movement to the economic competitiveness of the state and the region. Baltimore City DOT will also apply **\$4 million** in MAP-21 (FHWA) funding. **The TIGER VII funds will close the funding gap on a comprehensive network of capital improvements planned by MPA, Maryland Transportation Authority (MDTA), Baltimore City Housing and Community Development (HCD), and Baltimore City DOT.**

Baltimore City's proposed TIGER VII project will address a major State of Good Repair need, increase the economic competitiveness of both Baltimore and the U.S. port industry, expand access to ladders of opportunity, and dramatically enhance the quality of life for residents in surrounding communities. The project will rehabilitate and modernize existing assets that will facilitate efficient freight movement in and out of Dundalk and Seagirt Marine Terminals. Most importantly, this project will ensure direct truck access to the interstate system, thus protecting residential communities currently impacted by freight movement. Additionally, this project will support private investment along critical freight routes, including a new Amazon fulfillment center and investment by Ports America, Chesapeake at the Seagirt Marine Terminal. The ability of trucks to efficiently travel while minimally impacting communities is vital to continued economic success, job retention and creation, and middle class growth in Baltimore City as well as the region.

Project benefits include the following highlights:

### A. State of Good Repair

- Replaces deteriorated 1960's era bridge on Broening Highway that connects Dundalk Marine Terminal to I-95 and Seagirt Marine Terminal to East/West freight access via I-695. This bridge has deteriorated due to high volumes of overweight traffic and currently holds a structural rating of 4 out of 9 and a bridge sufficiency rating (BSR) of 42.3 out of 100, indicating a pressing need for replacement.
- Replaces deteriorated bridge joints on Keith Avenue, which will significantly prolong the life of the structure. Keith Avenue is currently signed as the preferred truck route to access the adjacent freeways. With the growing freight volume in the area, sustaining and maintaining this route is vital to reduce impacts to alternative routes.
- Repaves and makes geometric adjustments on Holabird Avenue, Ponca Street, and Interstate Avenue to provide an alternate freight route for oversize and overweight trucks to bypass residential communities. Improved pavement is vital to sustain the additional loads and reduce freight traffic on roadways not designed to sustain these loads. Further, modifications to intersections and underpass clearance will ensure that all trucks can traverse this route without incident.

### B. Economic Competitiveness

- Economic activity in the City is predicted to increase by \$38.8 million as a result of \$27.5



Bio-Retention Bump-Outs

million in construction spending.

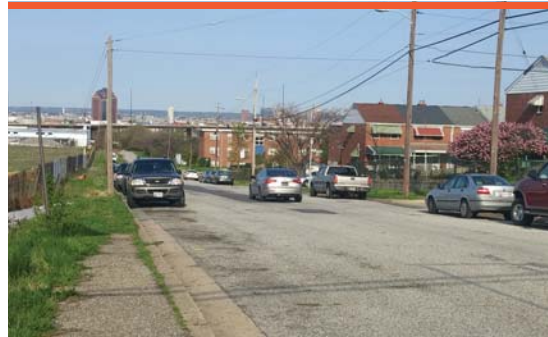
- The project is expected to create an average of 106 jobs over the four year period, earning a total of \$14.4 million in salaries and wages.
- State, local, and federal tax revenues will increase by \$3.6 million over the multi-year construction period.
- Restores direct efficient freight access to the United States' premier port for automobile imports and exports, handling almost 750,000 cars and trucks in 2013. Baltimore also ranks first among United States ports for handling farm and construction machinery, trucks, sugar, salt, iron ore, and other imports and exports, as well as second for exported coal.
- Currently, the Port of Baltimore is one of two East coast ports capable of handling the larger ships accommodated by the expansion of the Panama Canal, positioning the Port to experience significant growth. This increased activity at the Port represents a major economic driver for the City of Baltimore, State of Maryland, and the nation. However, as other

deep-water ports improve their infrastructure, Baltimore will have to maintain its edge in an increasingly competitive environment in both the region and world.

- Provides access to expanding industrial facilities along the corridor, including a new regional fulfillment center for national retailer Amazon, which when fully operational will employ over 1,000 residents across the region.
- Encourages the rapid development of several undeveloped industrial sites by creating more efficient port and highway access to potential developers and tenants, resulting in additional jobs that offer ladders of opportunity to local residents.
- This investment makes it possible to sustain the economic competitiveness of the Port of Baltimore, which supports close to 15,000 direct jobs and over 100,000 port-related jobs, creating \$3 billion in wages and \$300 million in state and local taxes.<sup>1</sup>

### C. Quality of Life

- Responds to long-held community concerns regarding safety and quality of life by synthesizing community input and quantitative data findings. Creates a more walkable, bikeable environment accessible to users of all abilities through implementing complete streets design guidelines in the Medford community, which has endured the effects of frequent truck traffic for many years.
- Enhances the region's ability to preserve and grow jobs in the transportation, logistics, and manufacturing sectors that support and rely on



Medford Community Currently Impacted by Truck Traffic

the Port of Baltimore, and by doing so improve access to job opportunities with family-supporting wages and career ladders.

- Redirects freight traffic away from residential streets, creating more livable communities.
- Ensures safe and accessible connections for economically disadvantaged populations to nearby transit access, local schools, and job centers.
- Provides freight traffic with more direct access to the interstate highway system, reducing travel time and conflicts between truck traffic and residential neighborhoods.

### D. Sustainability

- Reduces indirect freight movement, yielding commensurate reductions in greenhouse gas and particulate matter from diesel trucks, which is critically important as Baltimore is considered a non-attainment area for air quality.
- Integrates complete streets improvements with storm water management implementation using current best practices by increasing

permeable surface area through the implementation of micro bio-retention sites that will facilitate improved storm water management.

### E. Safety

- Replaces the structurally deficient Colgate Creek Bridge, which is currently unable to carry oversized/overweight (OS/OW) cargo, and may require a complete closure within the next four to nine years.
- Directs freight traffic around residential communities and improves intersection geometry to minimize vehicular, truck, pedestrian, and bicycle conflicts.

### F. Innovation

- Collaborates with local university researchers to apply a longitudinal study to track the impacts upon localized improvements.

### G. Partnerships

- Applies a comprehensive, multi-agency methodology to improving freight movement while supporting economic development throughout the Baltimore region.
- Approaches freight movement and community revitalization through a model of cooperation across agencies and jurisdictional responsibility by applying combined agency expertise in transportation planning, logistics, environmental protection, and economic development. These stronger partnerships will sustain collaboration for future preservation of these critical assets.



- Includes the financial support of the Maryland Port Administration (MPA), who recognizes the criticality of this investment to the Port's continued growth and economic success.
- Includes the support of public and non-profit partners, including the Secretary's Office, State Highway Administration (SHA), Maryland Transportation Authority (MDTA), and Baltimore Metropolitan Council (BMC)- Baltimore Regional Transportation Board (BRTB).

## Project Elements

The purpose of the Southeast Baltimore Port Industry Freight Corridor Plan is to create established freight routes connecting industrial businesses to I-95 and I-695, enhancing the competitiveness of the Port while protecting nearby communities from the disruption and pollution resulting from the close proximity to truck traffic. Each project element is geared toward creating a cohesive freight corridor. Specific project elements included in this application are integrally related; the successful implementation of each is strengthened by the presence of the others. The



Cargo Arrival at the Port

Southeast Baltimore Port Industry Freight Corridor Plan elements described below represent a range of highway, bridge, and complete streets improvements necessary to support the economic and community growth in Southeast Baltimore.

The proposed project includes:

**Colgate Creek Bridge Replacement:** Replace a structurally deficient, functionally obsolete bridge on Broening Highway over Colgate Creek, which will enable trucks to reroute away from residential communities.

**Roadway Improvements Connecting Freight Directly to I-95:** Improve roadway infrastructure on Holabird and Keith Avenue to provide direct freight access between the Port of Baltimore and the interstate system without traveling through residential neighborhoods.

**Complete Streets Improvements:** Create a new route for trucks to access I-95, circumventing a residential neighborhood and implementing complete streets improvements.

### A. Colgate Creek Bridge Replacement

The Colgate Creek Bridge is at risk of failure, which would result in catastrophic impacts to freight traffic and the surrounding communities. The bridge is in overall poor condition, with a four out of nine rating, and must be replaced to support the existing freight traffic in the area. The bridge is already limited from four to two lanes of two-way travel and restricted to oversize/overweight vehicles. As detailed in the bridge inspection report from an inspection begun March 27, 2014, the Colgate Creek Bridge is in overall poor

condition. The bridge deck, superstructure, and substructure all have extensive cracking and spalling, including exposed and corroded reinforcement. There are fractures in several girders of the superstructure, some of which have been noted in previous inspection reports and repaired, but deterioration has continued and is more extensive as of the current inspection report. The approach roadways and deck wearing surface have experienced continued rutting and pot holes, with exposed, broken and corroded reinforcement.

*If Colgate Creek Bridge is not replaced, it will be impassable for all truck traffic, resulting in a complete rerouting of all traffic to alternative routes – passing through residential neighborhoods.*

Positioned in close proximity to the entrances to Seagirt Marine Terminal and Dundalk Marine Terminal, Colgate Creek Bridge is a critical connection for freight movement in and out of the marine terminals. However, due to the increased demand for freight at the Port and subsequently greater stress upon the bridge from these larger load weights of trucks, the bridge is in dire need of replacement earlier than its initial expected lifecycle. Emergency repairs have enabled this critical bridge to stay open to private vehicle and light freight. However, without total replacement in the near future, this bridge will become impassable for all truck traffic.

Such a closure will cause major disruptions to efficient freight travel and drastically reduce the Port's competitiveness and ability to attract and retain economic investment. For example, DMT, which has ranked as a top three port for automo-

biles nationally for the past several years, relies on Colgate Creek Bridge to connect to I-95. Closure of the bridge would severely damage DMT's attractiveness for automobile cargo.

Due to the bridge's poor condition, and subsequent weight restriction, oversize and overweight loads must bypass Colgate Creek Bridge. Rerouting directs these freight movements through residential communities in both Baltimore County and Baltimore City, significantly impacting neighborhoods. Permitted oversize/overweight loads

are granted permission to travel on these residential streets as there is not an alternative routing option. Replacing the bridge will remove truck traffic from residential streets, shifting them back to Broening Highway and facilitating more direct access to the interstate system.

**If Colgate Creek Bridge is not replaced, this bridge will be impassable for all truck traffic, resulting in a complete rerouting of all traffic to alternative routes.** As a result, all truck traffic – not only that which is oversize/overweight – would

be required to reroute around the residential communities by way of I-695. This would add approximately 11 miles to each truck's route to and from the marine terminals and interstate system, resulting in 143 million additional miles traveled by rerouting trucks over the next 30 years. These additional vehicle miles traveled create a greater environmental impact compared to the direct route over Colgate Creek Bridge. Completion of the bridge replacement project will reduce total vehicle miles traveled and resulting air pollution, noise, pavement wear, congestion, and crash costs. Further, 151,263 tons of CO2 that would be produced in the absence of this project will be eliminated over the next 30 years.

Since limitations cannot be placed upon the routes of privately owned vehicles, the bridge closure would still result in a severe increase in vehicular travel through the neighborhoods, as all non-truck traffic will be forced to reroute around the bridge through residential streets, which are not designed to accommodate this load. This will jeopardize the safety and stability of these communities.

## B. Roadway Improvements Connecting Freight Directly to I-95

This project will improve road conditions on Keith Avenue and Holabird Avenue, enabling all freight to use these designated truck routes between Broening Highway and I-95. With the Colgate Creek Bridge replacement complete, it will be even more critical to create a direct freight route to the interstate system by implementing these roadway improvements. Without these improvements, OS/OW freight will still travel through the residential community at even greater volumes. With these



Impacts to Truck Route with Bridge Closure



improvements, all freight traffic will circumvent the residential neighborhood of Medford. Currently, export and import freight arriving from and bound for I-95 consistently travels through a residential segment of Broening Highway at all hours of the day and night. The proposed route would reroute freight vehicles from Broening to Keith Avenue or, alternatively, Holabird Avenue, enabling all trucks to access I-95 via these two alternative routes directly.

As a direct access point on and off of I-95 to commercial development in this area, Keith Avenue is a critical route for freight vehicles. Bridge joints along Keith Avenue are in poor condition, and will need to be replaced to handle increased freight traffic from new industrial development in the area. Joint replacements will prolong the life of the structure significantly, protecting the Port of Baltimore's competitive status in the international freight and shipping market at a moment when this industry is poised to grow dramatically.

*Currently, freight travels through residential communities at all hours of the day and night, dramatically impacting quality of life and safety.*

Holabird Avenue is a commercial corridor that would provide alternative truck access to I-95 and I-895. This route also provides access to the nearby state escort waiting area, where oversize/overweight vehicles must layover to travel during permitted times with the appropriate escorts. With increased freight traffic, road resurfacing along this commercial corridor will be essential. Further, median alterations in three locations will ensure that trucks can navigate the intersection geometry, removing the necessity for OS/OW

trucks traversing through the residential section of Broening Highway. Finally, increasing clearance under the 895 overpass at Interstate Avenue will remove the final barrier to truck traffic all taking this new route.

Signage and enforcement throughout this multi-modal network and freight corridor will be essential, to ensure freight vehicles appropriately follow their designated routes safely and efficiently. Significant signage will be added along Broening Highway and I-95. The implementation of digital enforcement technologies will be evaluated for this project.

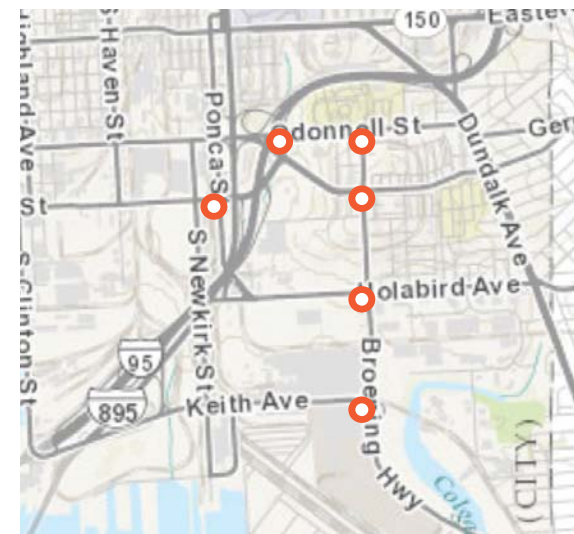
### C. Complete Streets Improvements

Truck traffic traversing through the residential community has been a long-standing community complaint. As truck traffic has increased over the years, thousands of residents have borne the burden of the subsequent noise and pollution, as well as repeatedly voiced concerns regarding pedestrian safety and social and environmental impacts. To date, the growing success of the Port has had an inverse relationship to residents' sense of stability and quality of life.

The new route that circumvents residential communities will create a direct and efficient route for truck traffic that improves the safety conditions for the surrounding community by separating freight from residential roads; additionally, the residential section of Broening Highway north of Holabird Avenue will feature improvements utilizing complete streets principles that will further discourage truck traffic from continuing north through this segment. Design elements will include a "road diet," narrowing the roadway and

making it less conducive to truck passage, as well as improved conditions for bicyclists and pedestrians; existing sidewalk conditions are hazardous and do not encourage pedestrian traffic as there is no buffer between the street and sidewalk. Consequently, sidewalk width will be increased to create a more inviting, safe streetscape that is conducive to pedestrian traffic.

Baltimore City will also use this as an opportunity to apply storm water management principles, implementing micro-bioretenement within median and bump outs at Cardiff Avenue and Boston Street. Finally, Americans with Disability Act (ADA) improvements will be implemented at both ends of Cardiff Avenue, ensuring that users of all abilities can safely and comfortably share the sidewalks and roadway. By eliminating freight movements through the neighborhood and applying the aforementioned complete streets elements, this project will improve quality of life by creating a safer roadway environment for the residents.



Locations for Additional or Improved Directional Signage for Freight

## II. PROJECT LOCATION

Since its founding over 300 years ago, Baltimore has been rooted in maritime trade and international commerce. With a record year in 2014, the Port of Baltimore moves over 37 million tons of foreign and domestic cargo each year and is poised to continue to grow due to recent investments in major new infrastructure.

Both Dundalk Marine Terminal and Seagirt Marine Terminal continue to be at the forefront of business growth and expansion. The fifth largest port on the East Coast, the Port of Baltimore remains the primary port in the nation for roll-on/roll-off (RoRo) cargo, including over-dimensional “high and heavy” cargo. Further, DMT is a national leader in automobile cargo from around the world, in the top three national Ports for this cargo. The Maryland Port Administration continues to expand its container business.

*The Port of Baltimore generates:*

- *Approximately 15,000 direct jobs*
- *108,000 port-related jobs*
- *\$3 billion in wages*
- *\$300 million in state and local taxes*

After last year’s record high volumes, 2015 has experienced an equally strong start, with March yielding the highest monthly container volume in the Port’s history. Additional expansion in 2015 include Maersk, the world’s largest ocean carrier, commencing service to Baltimore from North Europe, the Mediterranean, and the Far East. Further, another carrier, CMA-CGM, will expand its outbound service in June.



Seagirt Marine Terminal is uniquely positioned to take advantage of the opening of the expanded Panama Canal, scheduled for April 2016. Recent investment in new “Super Post-Panamax” cranes to handle larger ships and a new 50-foot-deep container berth make Baltimore 1 of only 2 East Coast ports capable of handling the larger ships accommodated by the expansion of the Panama Canal. Coupled with Baltimore’s deep water shipping channel, this investment positions the Port, and subsequently South East Baltimore, for tremendous economic growth and development. However, with additional ports working to enter this new market, Baltimore must maintain its advantage in an increasing competitive market.

The Port of Baltimore has made additional improvements to prepare for and foster further growth. For example, the main truck gate is being expanded from eight to thirteen lanes. Further, four additional Rubber Tire Gantry cranes have been positioned and refer racks have been scheduled for installation later this year. Major technological investments are underway, such as weigh-in motion scales and RFID, which will be incorporated into the new gate design. For a complete list of recently completed projects, as well as investments that are funded and/or underway, please see Appendix B.

Seagirt Marine Terminal, the Port of Baltimore’s primary container terminal, continues to perform



at very high levels during a period that other competing ports have struggled with congestion and volume issues. As a result of Seagirt's continued high performance, a growing list of beneficial cargo owners and shippers are interested in applying the Port's efficiency into their own cost savings. Baltimore's ability to continue to outperform its competing ports, such as New York and Norfolk, and its subsequent economic success depend upon its ability to enable efficient movement in and out of the Port to the surrounding network of highways and interstates.

While this application from Baltimore City DOT is for freight corridor improvements and community revitalization surrounding Seagirt and Dundalk Marine Terminals, it compliments previous investment made through TIGER funding. In 2013, a TIGER V Grant was awarded to the Port of Baltimore for expanded storage at Fairfield Marine Terminal and channel widening at Seagirt Marine Terminal to help accommodate larger ships. As new vessels arrive at the port, the significant impact of this previous TIGER grant becomes increasingly evident. However, Baltimore City must now aggressively improve the surrounding infrastructure in order to support this expanding Port activity for realized and additional potential growth. The current proposed project will maximize the benefits of all TIGER investment in the region.

*The Port of Baltimore is one of two East Coast ports capable of handling larger ships accommodated by the widening of the Panama Canal.*

These investments are critical to secure the long-term future of the Port of Baltimore, enable Mary-



Current OS/OW Truck Route and Conflicts





Duke Property slated for development

land to retain existing business and jobs, and remove a significant barrier to economic growth as these larger ships arrive. While this position promises increased economic opportunity for the City of Baltimore and the region, it also presents challenges to the Port and the surrounding residential community, both of which must prepare to handle increasing freight movement throughout the area. Currently, oversize/overweight, or “high and heavy,” cargo must use Baltimore City and Baltimore County roads to access the interstate highway system, traveling through several residential neighborhoods. This project comprehensively provides more direct truck access between the Port and the interstate highway system while removing trucks from residential streets.

## Corridor Improvements Underway

**The project elements in this grant application will closely coordinate with several key projects underway. Together, the current and proposed projects create a freight corridor that enables efficient truck movement in and out of the Port while protecting the surrounding residential communities.**

The three project elements in this grant application are critical components to complete this corridor; the impact of each of these projects is enhanced by the complete implementation of all pieces of the corridor improvements.

### A. Broening Highway

In 2012, BCDOT commenced reconstructing and rehabilitating Broening Highway between Colgate Creek Bridge and Holibird Avenue. Roadway reconstruction included full-depth concrete replacement on Broening Highway, as well as the reconfiguration of the Keith Avenue ramp to enable trucks to directly access I-95. While this new ramp enables freight leaving the marine terminals and surrounding industrial area to access I-95 directly, it cannot accommodate oversize/overweight trucks without additional improvements to the Keith Avenue Bridge and intersection geometries, as discussed in this grant application. As part of this comprehensive project, BCDOT also included improvements to the curb, sidewalk, and lighting to create a safer pedestrian environment.

### B. Dundalk Marine Terminal Gate Access

The Maryland Port Administration (MPA) requires additional capacity at Dundalk Marine Terminal (DMT). The MPA is investing \$5 million to increase cargo storage by 4 acres (with associated new jobs) by demolishing an existing building that is in disrepair and functionally obsolete. Clearing this land increases cargo storage, and facilitates the creation of a new back gate. Currently, Dundalk Marine Terminal has a single privately owned vehicle (POV) point of entry, resulting in congestion

and delays during peak times. A second gate for POVs will improve traffic flow at the Terminal during peak operating periods by rerouting some POV traffic as well as escorted oversize/overweight freight to the back gate, providing redundancy during normal operations as well as facilitating rapid evacuation in the case of emergency.

Currently, trucks moving oversize/overweight cargo must route their permitted loads in to and out of Dundalk Marine Terminal through residential communities. The back gate will allow the carrier to reduce the impact on communities around the terminal. Ultimately, the back gate will provide a new route for over 500 permitted loads per year at a savings to the customers of the Port.

### C. Expanded Interstate Access

Until recently, the roadway configuration on Broening Highway prevented trucks from accessing northbound I-695 – a critical connection to east/west freight access destined for I-70. Additionally, southbound traffic on I-695 cannot exit onto Broening Highway. This is a critical connection for freight access to and from the Port, making this project a high priority. Roadway modifications undertaken by the Maryland Transportation Authority (MdTA) at the Key Bridge have facilitated these movements, providing full access for freight movements to and from the Port at I-695. A new service road provides access to northbound I-695 from Broening Highway as part of this effort. The reconstruction project increased the pavement depth and turning radius of the roadway, which now allows oversized trucks from the Seagirt and Dundalk Marine Terminals to access northbound I-695 from Broening Highway.



Freight Traffic Leaving the Port

MdTA will be implementing a reduced toll for trucks that access northbound I-695 from Broening Highway. Trucks that are three or more axle vehicles will see a two-dollar per axle reduction go into effect July 1st, 2015. Implementing this reduced toll will support the coordinated effort to reroute trucks away from residential communities, as it currently discourages truck drivers from utilizing the highway; rather, they divert through the residential neighborhoods to access I-695 at a later point, bypassing the tolls.

#### D. Transit and Roadway Improvements Supporting Livable Communities

The O'Donnell Heights community, adjacent to the Broening Highway corridor, covers 62 acres and replaces 1940s era workforce housing with a new mixed-use development of affordable housing. The **O'Donnell Heights Master Plan** outlines four phases of construction, which will ultimately yield approximately nine-hundred rebuilt units

over the next ten years. Part of this residential redevelopment will create a new street grid and improve pedestrian facilities. The original development divided the community into four super-blocks; consequently, the new master plan seeks to break up these blocks, connecting the new internal roads to the traditional street grid of the surrounding communities. Not only will this new network of residential streets facilitate increased walkability, but it will also blend the new development with the surrounding neighborhoods, creating a more cohesive mixed-income community.

#### E. New Transit Access Servicing Economic Growth and Job Opportunities

The new Amazon.com, Inc. Distribution Center opened in 2015, bringing with it approximately 1,000 new jobs in the area, with additional opportunities still to come. In response to this boom in economic activity and increased job opportunities in this area, the Maryland Transit Administration (MTA) introduced a new bus line (Number 26 Line) in February 2015 that connects the Amazon Distribution Center on Broening Highway with downtown Baltimore and Dundalk Marine Terminal. The new bus line provides more connections to employment opportunities for those who do not have access to a personal vehicle and might otherwise be unable to connect with available jobs as well as decreases traffic on Broening Highway by reducing the number of personal vehicles necessary.

## Previous Studies and Master Plans

Several studies and master plans highlight the criticality of balancing investment in transportation infrastructure with community quality of life.

The Baltimore Port Freight and Community Project integrates several robust planning processes, all focused on improving the balance between the viability of port-related businesses and the livability of the residential areas. Several studies and plans have raised and analyzed the impact of freight movements from the two marine terminals on the communities of Southeast Baltimore, including:

The 2005 **Southeastern Neighborhoods Development (SEND) Strategic Neighborhood Action Plan (SNAP)** discusses the relationship between the Port and the surrounding communities, highlighting the challenges of truck traffic as well as the benefits of economic and employment opportunities for the region.

The 2007 **Baltimore City Comprehensive Plan** emphasizes the importance of integrating land use and transportation planning to ensure movement of freight throughout the City.

The 2009 **Maryland Statewide Freight Plan** presents critical issues facing freight, offering strategies to help Maryland prepare for the estimated 75 percent increase in freight by 2030. Projects that create better freight connectivity between the marine terminals and the interstate system are among those proposed under the Plan. As stated in the plan, “Projected economic growth...will lead to increased freight traffic and a correspond-



Bio-Retention in the Median in Baltimore City

ing acceleration of road and bridge infrastructure deterioration, a worsening of congestion, and heightened safety and community livability concerns. As congestion increases on key freight corridors, shippers, carriers, and logistics providers will shift to alternate routes, directly impacting mobility for both people and goods – and indirectly, jobs – statewide.”

The 2012 **Baltimore Port Communities Freight Impact Study** and subsequent **Baltimore Port Communities Freight Management Plan** analyzes current and projected freight demand and offers strategies to mitigate those impacts while supporting the continued and expanding operations at the terminals at near-by port-related businesses.

In 2013, BCDOT commissioned the **Broening Highway Feasibility Study** to specifically evalu-

ate alternative traffic movements on Broening Highway, as identified in the Baltimore Port Communities Freight Management Plan. The study reviewed alternative freight traffic routes between the marine terminals and the interstate system that would route trucks away from residential communities.

Taken together, these studies and plans demonstrate the vital need for a comprehensive approach to supporting the economic competitiveness of the Port through efficient freight movement while protecting the surrounding communities. These plans clearly articulate the relationship between the Port and the community as integral to the economic growth of the Port and job creation for the region.

**Investment that supports the middle class is critical to catalyzing neighborhood growth and stability in disadvantaged communities around the Port of Baltimore.**

Employment, income, and health statistics in Southeast Baltimore highlight the importance of supporting the growth of the residential communities in this economically-distressed area. Mixed-income urban redevelopment and new employment opportunities such as Amazon position the community to grow and stabilize. Perhaps most importantly, port-related jobs offer competitive wages that help support and grow the middle class. It is critical to

### Dundalk and Seagirt Marine Terminals:

- 11% of trucks are Maryland registered, accounting for 62% of trips
- 60% of trip destinations in Maryland
- 60% make one or more trips per day, averaging 3.5 trips per day

### Southeast Baltimore's population:

- 21.5% live below the poverty line.
- 48.2% are not employed.
- 33% do not have access to a private vehicle.
- 25% use public transportation to get to work.



support this area's momentum by mitigating the impacts of high freight traffic and enhancing access to employment opportunities.

As previously discussed, O'Donnell Heights, a public housing development in the area, is undergoing a major redevelopment, integrating affordable housing into a new mixed-use development. Connecting this population with jobs and amenities and creating a safe and stable community is critical to its success. Approximately one-third of the area's population has no access to a private vehicle, and about a quarter of residents use public transportation to get to work. In addition, Southeast Baltimore has a "walk score" (a measure of public access to amenities by foot) of only 25.8 out of 100; Baltimore City's overall "walk score" is over twice this, at 66. These statistics illustrate the need for safer streets that are separated from truck traffic.

For Baltimore's Southeast neighborhoods, creating economic growth and ladders of opportunity is crucial. To this end, the **Mayor's goal to grow the City by 10,000 families in 10 years** depends on Baltimore's ability to attract and retain residents by providing safe communities and a strong economy. Residents in Baltimore's Southeast have a higher percent of population living below the poverty line (21.5 percent) compared to the City at large (17.7 percent), and a lower comparative median household income (\$30,864 compared to \$40,100). Over a third of the population in this community has less than a high school diploma or GED (36.4 percent), and approximately half of the population between 16 and 64 is not employed.



Container Terminals at the Port of Baltimore

### III. PROJECT PARTIES

Baltimore City DOT, in coordination with the Maryland Department of Transportation (MDOT) and MPA, will carry out the projects proposed in this application. Baltimore City DOT is leading local and regional efforts to create a seamless freight network that supports the region's economic competitiveness and improves quality of life for Baltimore residents. As the lead agency for the TIGER VII grant, BCDOT will be responsible for grant implementation, including day-to-day management, coordination among project partners, quality control, and project evaluation.

Baltimore City has coordinated with state agencies, private businesses, and the local community over the past decade to develop solutions that will improve freight movement along Broening Highway. The Southeast Baltimore Port Industry Freight Corridor Plan has a large and diverse group of stakeholders, many of whom have committed to the planning, engineering, or capital cost portions of the project. The Mayor of Baltimore City has joined U.S. Senators Barbara Mikulski and Ben Cardin, and U.S. Congressmen Elijah Cummings, Dutch Ruppersburger, and John P. Sarbanes in supporting this project. The complete list of stakeholders includes:

#### Federal Delegation

- Senators Cardin and Mikulski
- Representative Cummings, Sarbanes, and Ruppersburger



#### State Delegations

- Senator Ferguson and Delegates, Hammen, Clippinger, and Lierman (46th District)
- Delegates Grammer (6th District)

#### City Delegation

- Mayor Rawlings-Blake
- Councilman Kraft
- Council President Young

#### Organizations

- Baltimore Metropolitan Council (BMC)- Baltimore Regional Transportation Board (BRTB)
- Maryland Motor Truck Association (MMTA)
- Greater Baltimore Committee (GBC)

#### Community Associations

- East Baltimore Development
- Southeast Community Development Corp.



- St. Helena
- O'Donnell Heights
- Medford (informal)

#### **Businesses**

- Sparrows Point
- MTC Logistics
- Hoffberger Holdings
- Belts Logistics
- Ports America
- Chesapeake Real Estate Group
- Amazon, Inc.

#### **Government Agencies**

- Maryland Department of Transportation (MDOT)
- Maryland Port Authority (MPA)
- Maryland Transportation Authority (MdTA)
- Baltimore Development Corporation (BDC)
- Baltimore City Department of Planning

Letters of support are attached to this application as Appendix D.



Several of the Over 200 Truck Bays at the Amazon Facility



Bio-Retention and Rain Water Management in Sidewalk Bump-Outs in Baltimore City



## IV. GRANT FUNDS AND SOURCES/USE OF PROJECT FUNDS

### Local Funds (\$11.5 million)

Baltimore City DOT receives an annual allocation of \$15 million in Maryland County Transportation Bond funds. Of this allocation, the City is committing **\$10.5 million** as a match to the TIGER VII request. In addition to the matching funds for TIGER, Baltimore DOT will also program **\$1 million** as match for MAP-21 Federal Aid in support of the project.

### State Funds (\$2 million)

The Maryland Department of Transportation (MDOT) is responsible for building, operating, and maintaining a safe and seamless transportation network that links Maryland with the rest of the country and the world. MDOT directs and oversees the planning, construction, and operation of Maryland's highway, transit, maritime, rail, and aviation facilities, as well as the Maryland Motor Vehicle Administration. The modes are funded by a common funding source, Maryland's Transportation Trust Fund.

The Transportation Trust Fund is separate from the State's general fund and its revenues are dedicated to improving and operating Maryland's transportation network. The five modal administrations, and the Maryland Transportation Authority, all work together to assist each other in the development of a seamless transportation system designed to fuel Maryland's economy and enhance the quality of life of its citizens.

The table below summarizes the full and scaled funding for this project:

PROJECT FUNDING SUMMARY	Full Project	
Project Element	Project Cost (\$ millions)	
Colgate Creek Bridge Replacement	\$20	
Roadway Improvements Connect Freight Directly to I-95	\$5.5	
Complete Streets Improvements	\$2	
Total Project Cost	\$27.50	
Sources and Uses	Amount	% Contribution
Baltimore City- Local Match for TIGER VII Request	\$10.50	38%
Baltimore City- Local Match for MAP-21 - City’s Formula Funds from FHWA	\$1	4%
State of Maryland- Maryland Port Administration (MPTA)	\$2	7%
MAP-21- City’s Formula Funds from FHWA	\$4	15%
TIGER VII Grant Request	\$10	36%
Total	\$27.5	100%
Total Local/State Match		49%

In demonstration of the importance of this project to the economic competitiveness of the state and the region, the Maryland Port Administration (MPA) is directing **\$2 million** toward the overall cost of the project.

### Federal Funds (\$4 million)

The City receives an annual share of approximately 6.5% of the State's allocation of MAP-21 Federal Aid. In support of the TIGER request, the City has programmed approximately **\$4.0 million** for the Colgate Creek Bridge replacement.

### TIGER VII Funds (\$10 million)

The City is requesting **\$10.0 million** in TIGER VII funds, which represents 31 percent of total project costs, to fill the gap between the sources described above and the project budget. Without these important funds, overall freight improvements to the Broening Highway Corridor will not be possible.

## V. SELECTION CRITERIA

### A. Primary Selection Criteria

#### STATE OF GOOD REPAIR

**This TIGER VII project is consistent with local efforts to improve the condition of existing transportation facilities and systems, maintaining assets in a state of good repair to minimize life-cycle costs and improve resilience.**

The City has developed the Baltimore Port Communities Freight Master Plan to identify solutions that address operational, safety, and capacity deficiencies and vulnerabilities in the transportation network impacting the Port of Baltimore, as well as the surrounding communities. It is critical that the City address these transportation deficiencies to support a robust regional economy through the critical movement of goods and services around the Port of Baltimore, as well as the vitality of the surrounding residential communities.

This TIGER VII request directly addresses the State of Good Repair objective by including funding for:

- Reconstructing the Colgate Creek Bridge, which is structurally deficient and therefore cannot be used by oversize/overweight trucks. This bridge currently holds a structural rating of four out of nine and a bridge sufficiency rating (BSR) of 42.3 out of 100, indicating a pressing need for replacement.
- The bridge reduces miles traveled by overweight/oversize loads on city streets by 33.8



- percent, reducing wear and tear on roadways not designed to sustain these loads. This bridge is located at a critical segment of Broening Highway, connecting the Dundalk Marine Terminal and the Seagirt Marine Terminal to I-95 and I-695, respectively.
- Replacing bridge joints on Keith Avenue to extend the life of the bridge by ten years. With the growing freight usage in the area, sustaining and maintaining this route is vital to reduce impacts to alternative routes.
- Repaving on Holabird Avenue, Ponca Street, and Interstate Avenue to enable oversize and overweight trucks to utilize this route, bypassing residential streets which are not designed to sustain the wear and tear of freight traffic.
- Constructing pedestrian and bicyclist improvements to sidewalks and roadways within the project area to provide safer access for all users, especially disadvantaged and handicapped residents, offering improved access to jobs, amenities, goods, and services.

**The TIGER VII project will upgrade critical transportation infrastructure that threatens future economic growth.**

The City's comprehensive strategy to reinvest in Southeast Baltimore's transportation infrastructure is critical to unlocking enormous economic growth opportunities at the Port of Baltimore while supporting the revitalization and stability of the area's residential community. Using this strategy, Baltimore can successfully facilitate sustainable growth for both the Port and its surrounding communities.

Expanding industry in the area, such as Amazon's one-million square-foot fulfillment center and booming growth at the Port of Baltimore, will bring increased economic growth and job opportunities. However, this growth demands adequate infrastructure in order to sustain and grow commercial and residential populations. Redevelopment is the key to help the City attract and retain new firms, diversify the City's economic base, and counter decades of population loss.

**The Southeast Baltimore Port Industry Freight Corridor Plan minimizes life cycle costs within the regional transportation system in Southeast Baltimore.**

The proposed transportation improvements reflect a comprehensive and coordinated approach to infrastructure improvements that meet long-term redevelopment goals. While this application proposes the reconstruction of the Colgate Creek Bridge and roadway improvements, these state-of-good-repair projects are part of a coordinated plan on Broening Highway from I-95 to the North

to I-695 in the South. Baltimore City commenced the reconstruction and rehabilitation of Broening Highway north of Colgate Creek in 2012, including roadway reconfiguration and reconstruction and improvements to the curb, sidewalk, and lighting. By addressing the deficits presented by stressed and aging infrastructure proactively and systematically, BCDOT is implementing a broad plan to create a connected corridor that serves all users safely and efficiently.



Roll-on/Roll-off Cargo

The proposed investments under this application will not only support the growth of the Port of Baltimore and its associated surrounding industry, but also prevent unnecessary stress on residential streets. Because the Colgate Creek Bridge's condition renders it unable to support OS/OW trucks, freight traffic continues to reroute on to residential streets, which are not designed to support the associated weight. Consequently, the condition and life cycle of these roads continues to be detrimentally impacted.

**ECONOMIC COMPETITIVENESS**

The Port of Baltimore is a prominent international trade hub that supports the metropolitan region and contributes to the nation's economy. The Port is strategically situated between two major interstates, I-695 and I-95, enabling the Port to efficiently serve the most densely populated corridor in the country. This connected location is critical to the Port's ability to successfully serve the needs of local and national commerce, enhancing the economic competitiveness of the United States. The key elements in this application will support and foster the local and national economy by reducing transportation costs for users, increasing the efficiency of US exports, improving productivity, and creating long-term economic benefits such as creating and preserving jobs for the region and beyond.

**Proposed project expenditures will increase economic activity in Baltimore City by more than the simple amount of construction dollars spent.**

There are \$27.5 million in construction expenditures associated with the improvements occurring from FY2016 to FY2019. Multiplier effects occur as the spending associated with a project are earned and, in turn, re-spent by other workers and businesses in successive rounds of earning and spending. There are two types of multiplier effects: indirect effects resulting from the purchase of goods and services as inputs to the direct activity; and induced effects resulting from the increase in local earnings resulting from the jobs created as a result of the direct and indirect effects.



As presented in the table below, when the multiplier effects of this construction spending are included, the \$27.5 million in local construction expenditures increase total economic activity in the City by \$38.8 million as a result of \$6.8 million in indirect effects, from local construction related purchases, and \$4.5 million in induced effects, as a result of the jobs and income created. The infrastructure improvements will create about 89 construction jobs over the 4-year period, with an additional 17 jobs created by the indirect and induced effects for a total employment count of 106 jobs created over the period. There is a 4-year total of \$14.4 million in wages and salaries associated with these 106 jobs.

The model also estimates total federal, state, and local tax revenues created by a project. These improvements will increase federal tax revenues by \$2.5 million and state and local tax revenues by \$1.0 million. It is important to note that these impact figures are the aggregate impacts over the entire multi-year construction period. Thus, the impacts in any given year will be smaller. Appendix C presents assumptions upon which modeling was performed, the findings in greater detail, and discusses the model used.

<b>Economic Impacts of Construction Expenditures (Jobs and 2015\$)</b>	
<b>Direct Impact</b>	<b>\$27,500,000</b>
Economic Output	\$38,817,200
Employment <sup>1</sup>	106
Employee Compensation	\$14,407,425
Average Employee Compensation per Job	\$542,286
Fiscal Impact	\$3,566,841

<sup>1</sup> Average number of jobs created per year during construction of improvements.  
Source: IMPLAN



Truck Traffic in Neighborhood

**Strategic infrastructure investments have positioned the Port of Baltimore to capitalize on expanding international trade opportunities and economic growth.**

The Port of Baltimore has increased port and freight activity due to recent major capital investments made to the Port, including increased berthing capacity and long-reaching cranes. The Panama Canal Expansion project is expected to be complete in April 2016. The Port of Baltimore is projected to realize an increase in cargo movement since it is one of two ports on the East Coast able to

accommodate extremely large vessels that will be able to navigate through the expanded Panama Canal. Companies such as Amazon and Mazda recognize the far-reaching economic opportunities that exist at the Port and are responding by building major distribution centers in the area, which will serve as major engines of economic growth and job opportunities.

**Increasing freight activity at the Port, as well as associated industry in the surrounding area, requires coordinated investment in supporting infrastructure.**

The continued increase in Port activity is resulting in an increase in freight traffic. While this is a positive sign of economic growth, it is currently negatively impacting the associated roadway net-

work and through-movements within residential neighborhoods. The key project elements identified through this application are critical for handling current and future freight capacity. If Baltimore is unable to invest in these critical improvements, the Port and City of Baltimore will not be able to take advantage of national and international commerce that depends upon an efficient regional transportation system. These critical investments will catalyze redevelopment of several undeveloped industrial sites by creating more efficient port and highway access, making these sites more attractive to potential developers and tenants. The resulting additional jobs will provide ladders of opportunity to local residents while protecting their neighborhoods.

*The key project elements identified through this application are critical for handling current and future freight capacity.*

When surveyed, local businesses indicated that infrastructure improvements proposed in this application would increase business operations efficiency. Specifically, businesses felt that the improvements would reduce waiting time for freight (e.g., unloading, loading, and traffic), reduce costs such as transportation costs based on distances required between the Port and distribution centers, and reduce truck repair costs. Overall, businesses indicated that these improvements would result in a significant positive impact to their business. Further, one business indicated that trucks and trailers servicing their facility currently have great difficulty navigating to the highway given intersection geometry, resulting in safety concerns. The proposed changes would address the specific concerns raised.



Oversize/Overweight Cargo

**Replacing critical infrastructure that increases the Port's competitiveness supports more stable neighborhoods and economic opportunity.**

Neighborhoods in the project area surrounding Broening Highway are designated as Economically Distressed Areas and would greatly benefit from job opportunities created by the growth and expansion of economic activity at and surrounding the Port. Additional economic benefits to these

communities would include improved freight access, eliminating freight traffic through their residential streets, which would subsequently create a more desirable, valuable, and equitable community.

Additionally, Baltimore City Housing is working in partnership with a non-profit organization to redevelop a 900-unit residential community that will integrate affordable housing into a new mixed-use development. The current and future activities at the Port will create demand for an increased workforce population. This redevelopment project would complement the need for a larger employment base at the Port, providing residents with economic opportunities, as well as the opportunity to live near their place of employment, decreasing transportation costs and contributing to a better quality of life.

## QUALITY OF LIFE

The key elements in this application will enhance the quality of life for residents in the surrounding neighborhoods by increasing transportation choices, reducing negative impacts from freight traffic, and enhancing access to jobs and opportunity while providing increased community stability.

**Averting the closure of Colgate Creek Bridge will protect workers from major disruptions in their ability to efficiently use transit.**

Approximately a quarter of residents in this area depend on transit to get to their place of employment and a third does not have access to a private vehicle. Offering convenient, safe access to transit will substantively contribute to residents'

quality of life. Colgate Creek Bridge serves as the only transit access point for the Dundalk Marine Terminal – a major employment center for the region. Residents and workers depend on transit to travel to and from employment in the area each day. Therefore, it is critical that transit service continue without disruption. Additionally, MTA has determined that ongoing growth in the area warrants additional service to the area; expanded bus routes and additional bus stops have already been added in response to this growth to connect workers with job opportunities.

In the event that Colgate Creek Bridge is forced to close to all traffic, the MTA's 26 bus line would

no longer be able to provide Baltimore City and County residents transit access to the Marine Terminal and adjacent jobs. As a result, transit users would be forced to undertake a significantly longer commute to access their current jobs or job opportunities in the surrounding area.

**Investing in these infrastructure improvements will enhance the region's ability to preserve and grow jobs and improve access to job opportunities with family-supporting wages and career ladders.**

Baltimore is home to a concentration of the region's disadvantaged populations, with a citywide

poverty rate of over 22% in 2013, nearly 20% of the City's working aged adults have less than a high school diploma and only 26.8% of working age adults hold a Bachelor's degree or higher. This project will enhance the region's ability to preserve and grow jobs in the transportation, logistics, and manufacturing sectors that support and rely on the Port of Baltimore, and by doing so improve access to job opportunities with family-supporting wages and career ladders (as identified in the City's 2015 Comprehensive Economic Development Strategy or CEDS, and the Opportunity Collaborative, a regional HUD funded Sustainable Communities grantee).

**The key elements outlined in this application will substantively improve the quality of life for residents in the surrounding community.**

This TIGER VII application pinpoints the most critical infrastructure improvements in the region necessary to support freight movements, commuter options, and local trips. The project also promotes safety by moving hazardous material and heavy loads off residential roadways and onto highways. This provides additional roadway capacity for passenger vehicles and commuters.

Residents who currently reside along congested roadways will benefit from improved air quality and a reduction in noise pollution once the truck traffic is rerouted. The proposed connection between Broening Highway and I-95 that circumvents the residential community will reduce air and noise pollution from trucks in the vicinity of the residential street by 28.8 percent. This project will create a more desirable housing market that will lead to reduced neighborhood turn-over, increased property values, and lower crime rates.



Broening Highway Looking South with the Duke Property Development Site on the West



**This TIGER VII project will unlock additional commercial and residential investment along the Broening Highway Corridor.**

The Port of Baltimore generates approximately 15,000 direct jobs and over 100,000 Port-related jobs. The outlined enhancements will support the planned projects for this area further adding to the employment base in this area. Amazon is building a one-million square foot fulfillment center, which adds an additional one-thousand employment opportunities to the local economy. Amazon has stated that they plan on hiring locally and boasts higher paying positions compared to typical retail positions. As previously discussed, several undeveloped industrial sites will become increasingly attractive to prospective developers and tenants as this corridor is improved. The investments under this plan will catalyze redevelop-



**Bio-Retention and ADA Improvement Examples**

opment and support the continued economic growth of the area, producing more jobs and better opportunities for residents.

The planned O'Donnell Heights community will directly benefit from this TIGER project. A development of this type is needed in this area,



especially to support the planned job growth in the local economy. This development will provide residents with affordable housing options in an area destined for substantial employment growth within the next ten years. Facilitating the successful growth of this redevelopment must begin with calculated investments in the critical infrastructure in the surrounding area.

## ENVIRONMENTAL SUSTAINABILITY

**The Southeast Baltimore Port Industry Freight Corridor Plan will improve energy efficiency, as well as reduce oil dependency and greenhouse gas emission.**

Baltimore City is committed to creating a more environmentally sustainable city for all residents and visitors. Baltimore's Office of Sustainability is dedicated to promoting investments in a more sustainable transportation system for the future by "capitalizing on Baltimore's existing network, targeting improvements, and redeveloping in a transit-oriented

*This project will empower businesses and communities to be more economically, environmentally, and socially sustainable.*

fashion." Enhancing the connectivity of Port users as well as residents in Southeast Baltimore by implementing key improvements along the Broening Highway Corridor will empower businesses and communities to be more economically, environmentally, and socially sustainable. The proposed projects under this application support the City's dedication to sustainability in several key ways:

- Creating the new connection to I-95 via Holabird and Keith Avenue will improve the environmental conditions for the residential neighborhood protected as a result of rerouting trucks. Eliminating truck traffic through the community to the north will improve air quality for residents. Similarly, following the replacement of Colgate Creek Bridge, trucks will no longer need to detour through the surrounding communities, such as Saint Helena, impacted by this detouring traffic.
- The Colgate Creek Bridge replacement will enable MTA to route additional service to the area, resulting in lower auto-dependency and increased public transit use.

**This TIGER VII project will protect and enhance the environment by mitigating environmental impacts.**

Baltimore City recognizes that roadway reconstruction and improvements offer an opportunity to create a more environmentally sustainable streetscape. As part of this project, Baltimore will implement elements that protect and enhance the environment. By focusing efforts on high yielding improvements that strengthen the viability of the entire roadway network, positive environmental impacts will be leveraged to the

system for the long-term, amplifying a comprehensive proactive approach. The following project elements directly speak to this goal:

- Complete streets enhancements implemented as part of the I-95 access improvements that reroute trucks away from the residential community will increase the number of trees as part of streetscape improvements. The road diet that will narrow the street, prohibiting OS/OW trucks from traveling through the neighborhood, decreasing the quantity of impermeable surfaces, facilitating improved rain water management and decreasing runoff into storm drains.
- Design elements in the proposed “road diet” for the section of Broening Highway north of Cardiff Avenue include a new raised planted median which would decrease the surface area of impervious paving.
- Bus stops, street lights, trees, trash receptacles, and other amenities will further enhance the pedestrian environment of the street, encouraging the use of alternative forms of transportation (e.g., walking, biking, and public transit) by creating a safe, welcoming, and clean streetscape.

## SAFETY

**Transportation investments under the Southeast Baltimore Port Industry Freight Corridor Plan will improve the safety of transportation facilities and system for all modes of transportation and users.**

Improvements to Broening Highway and the new connections proposed to I-95 and I-695 will create a coordinated corridor connecting freight to the interstate system safely and efficiently. As trucks are rerouted away from residential neighborhoods and on to designated routes, truck conflicts with other vehicles and pedestrians will be reduced. Of particular note, Graceland Elementary School draws from the immediate project area. Protecting children from major freight traffic as they walk to and from school each day is critically important to ensuring their safety.

Separating freight traffic from residential neighborhoods will only grow in importance, as industrial warehouses in the area continue to expand. Amazon will house over 150 truck bays, which will increase freight traffic – and thus the critical-

ity of protecting communities – dramatically. This application’s safety benefits include:

- The proposed roadway improvements to Keith Avenue and Holabird Avenue will connect Broening Highway to the interstate system more efficiently, while also routing truck traffic away from the residential community north of Holabird Avenue.
- Replacement of Colgate Creek Bridge will allow oversize/overweight vehicle movement to appropriately remain on Broening Highway, rather than circumvent this structurally deficient bridge by way of residential neighborhoods to the east. The project will reduce crash costs 79 percent. Currently, the bridge is unsafe for heavy freight movement.



Cargo at the Port of Baltimore

## B. Secondary Selection Criteria

### INNOVATION

To assist the integrative freight network project of the City of Baltimore, the Morgan State University research team will complete a longitudinal study to improve three pillars of sustainability with respect to urban freight movement in, out of, and around the Port of Baltimore and the City of Baltimore. The three pillars are to ensure economic, environmental, and social sustainability. The research team will model, pilot, and implement alternative urban goods distribution strategies that help improve the Port's and City's competitiveness, and mitigate negative impacts to the surrounding neighborhoods to improve the quality of life.

### PARTNERSHIP

This TIGER VII application applies a well-studied, comprehensive approach to freight movement in a regionally significant area, utilizing a multi-agency methodology to improve freight movement while supporting economic development throughout the region. This application demonstrates strong collaboration among a broad range of participants, as well as integrates transportation with other public service efforts and projects in the area that are part of a robust planning process. The Baltimore Port Freight and Community Project has the support of a broad range of participants, public agencies, private business, and local community groups. Strong collaboration among partners, in conjunction with several studies focused on improving freight movement in the area, has resulted in a long history of support for the project elements proposed.

### Jurisdictional and Stakeholder Collaboration:

Baltimore City is working with multiple state and local agencies, including the Maryland Port Administration, Maryland Department of Transportation, State Highway Administration, and Baltimore County, in support of current efforts to improve the Broening Highway corridor. Large, private regional businesses, such as Ports America and Amazon, support this project and understand the economic and quality of life benefits that this project will bring. Most importantly, community residents that live with the daily presence of truck traffic in their neighborhood have been supportive of this project. City government and community groups alike recognize the mutual benefits that these improvements will have on property values, health impacts, and local infrastructure.

**Disciplinary Integration:** Baltimore City has brought together a team of multi-disciplinary stakeholders in support of this project to ensure that it coordinates and integrates with the previously discussed existing area projects and plans. Baltimore City Housing and Community Development, in partnership with a selected developer, is moving forward in the development of a new, mixed-income community that is partially funded with a Housing and Urban Development grant, adjacent to the project area, and will benefit greatly from reduced truck traffic through the neighborhood. In addition, the Baltimore City Department of Planning has provided planning studies and guidance in the design of the project that will benefit the City from a comprehensive approach.



Oversize/Overweight Trucks Leaving the Port



## VI. RESULT OF BENEFIT-COST ANALYSIS

The Benefit-Cost Analysis (BCA) provides monetary benefits and costs (in present day dollars) associated with the project over a 30-year analysis period. The estimated benefits have been categorized by the five long-term outcomes listed in the BCA Resource Guide- State of Good Repair, Economic Competitiveness, Livability, Environmental Sustainability, and Safety.

Specifically, the monetary benefits across these categories were calculated based on maintenance costs for the existing bridge versus a new bridge, a reduction in vehicle miles traveled (VMT) resulting from a change in truck routing both with and without the project, and stormwater management impacts associated with complete streets improvements. In the without-project condition, truck traffic currently traversing the aging Colgate Creek Bridge to and from Dundalk Marine Terminal would need to be rerouted to I-695, thereby increasing the VMT per truck and adding additional future costs. In the with-project condition, the new Colgate Creek Bridge would be open to all traffic, including oversized freight traffic. Major benefits resulting from proposed corridor improvements in this project are as follows:

- Provides freight traffic with a shorter route to access I-95 North
- Provides freight traffic with safer and more efficient access to the interstate system on primary and secondary signed truck routes
- Decreases vehicle miles traveled per truck
- Substantially reduces bridge maintenance costs
- Improves quality of life by removing freight traffic from residential communities

The benefit-cost ratios for the project as a whole are 2.5 and 1.3 using the 3- and 7-percent discount rates, respectively. Additional information, including the specific assumptions and methodology used to calculate the above ratios, is described in detail in the attached as Appendix A- Quantitative Benefit Cost Analysis.



## VII. PROJECT READINESS

With a TIGER VII grant in place, the Southeast Baltimore Port Industry Freight Corridor Plan is poised to complete the variety of freight network improvements that have already begun, serving as the capstone of several critical and coordinated projects that improve freight movement and community livability. Baltimore City has the technical and financial capacity to undertake this project quickly and meet all milestones.

### A. Technical Feasibility

The City has conducted numerous technical and concept studies that examine the alternatives and benefits within the Broening Highway corridor. Baltimore City has contractual mechanisms in place that will allow it to move quickly upon award to begin design and engineering of the project elements. Baltimore City understands the need for projects to be obligated by September 30, 2017 to be in compliance with the TIGER VII grant funding requirements.

The City is committed to advancing the project elements as quickly as possible and exploring all possible project delivery methods to ensure the project meets prescribed implementation deadlines. The City has vast experience executing projects of similar scope.

### B. Financial Feasibility

Baltimore City will be the grant administrator and will also implement the project. Baltimore City



DOT has received numerous federal grants and is experienced in managing the requirements associated with the receipt of such funds.

### C. Project Schedule

The following table presents a traditional project schedule under Baltimore City's typical project implementation process. Baltimore City is committed to meeting required TIGER VII timelines. The Project Schedule is as follows:

Milestone	Date
Preliminary Engineering Complete	September 2015
Environmental Approval	September 2016
Right-of-Way Acquisition	September 2016
Final Design	December 2016
Construction Begins	March 2017
Project Completion	March 2019

#### D. Assessment of Project Risks and Mitigation Strategies

Baltimore City has an excellent history of risk management across decades of project and construction management. Risks to the project have been analyzed, including procurement delays, environmental uncertainties, and increases in real estate acquisition costs.

**Procurement:** The City has design and engineering contracts in place that will allow this work to be awarded expeditiously. Design will begin immediately after award of the TIGER VII grant.

**Environmental:** Feasibility studies that include an examination of environmental factors have been conducted for all project elements requested in this grant.

**Real Estate Acquisition:** The City is experienced in estimating right-of-way costs along major corridors and is confident that the cost estimates provided are accurate. Cost estimates were averaged for similar zoning scenarios in industrial/abandoned areas

#### E. NEPA

Environmental documentation and satisfaction of the National Environmental Policy Act (NEPA) for this project is expected to be complete in August 2016. It is expected that design will occur concurrently with the environmental process, such that bidding documents can be prepared upon receipt of environmental approval and construction can begin in March 2017. The following are known environmental issues with the primary project elements:

**Colgate Creek Bridge Replacement:** The proposed replacement of the bridge will require additional NEPA documentation to be completed, but based on a previously issued Programmatic Categorical Exclusion (PCE) is not expected to result in environmental impacts. Previous findings issued by the Maryland Historical Trust (MHT) have found no historical properties affected. The final bridge design is expected to be completed under the 2016 Capital Improvement Plan.

**Roadway Improvements Connecting Freight Directly to I-95:** There are no significant environmental features in the project area, and therefore NEPA will not be necessary for the planned level of improvement.

**Complete Streets Improvements:** There are no significant environmental features in the project area. Residential neighborhoods and associated community services are located in the north and east of the study area. There are no National Register-listed properties or Baltimore City designated landmarks. The St. Paul Cemetery located at 5600 Cardiff Avenue is a cultural resource in the study area, but is outside the project footprint.

#### F. Legislative Approvals

The Baltimore City Department of Transportation has committed the necessary Capital Improvement Program (CIP) funds to the project. All funds have been appropriated as a result of legislative action approving budgets for those funds.

#### G. State and Local Planning

All project elements will be included in the BMC/BRTB's Transportation Improvement Program (TIP). Improvements to Broening Highway corridor have been studied and elements of the project are included as a part of several state and local plans. These plans include:

- Southeastern Neighborhoods Strategic Neighborhood Action Plan (SNAP) (2005)
- Maryland Statewide Freight Plan (2009)
- Baltimore Port Communities Freight Impact Study (2012)
- Baltimore Port Communities Freight Management Plan (2013)
- Broening Highway Feasibility Study (2013)



### **Additional References:**

Maryland Port Administration. <http://www.mpa.maryland.gov>

Baltimore Neighborhood Indicators Alliance  
Jacob France Institute. <http://www.bnijfi.org/>

Baltimore City Office of the Mayor, Mayoral  
Initiatives. <http://www.baltimorecity.gov/OfficeoftheMayor/MayoralInitiatives.aspx>

Baltimore City Office of Sustainability, <http://www.baltimoresustainability.org/transportation>.

## VIII. FEDERAL WAGE RATE CERTIFICATION

CITY OF BALTIMORE  
STEPHANIE RAWLINGS-BLAKE, Mayor



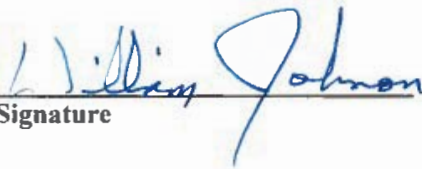
DEPARTMENT OF TRANSPORTATION

WILLIAM M. JOHNSON, Director  
417 E. Fayette Street, 5th Floor  
Baltimore, Maryland 21202

June 1, 2015

**RE: Federal Wage Rate Certification**  
**TIGER VII Discretionary Grant for The Southeast Baltimore Port Industry freight**  
**Corridor Plan**

I, William Johnson, hereby certify that the requirements of Subchapter IV of Chapter 31 of Title 40 of the United States Code (Federal Wage Rate Requirements) will be met in the utilization of any funds granted to the City of Baltimore Department of Transportation, as required under the FY 2015 Appropriations Act.

  
Signature

**Name:** William Johnson  
**Position:** Director  
**Applicant:** City of Baltimore, Department of Transportation  
**Address:** 417 E. Fayette Street, 5<sup>th</sup> Floor  
Baltimore, MD 21202

All documents associated with the Southeast Baltimore Port Industry Freight Corridor Plan TIGER VII application can be found on the Baltimore City Department of Transportation website at the following web address:

<http://archive.baltimorecity.gov/Government/AgenciesDepartments/Transportation/TIGER.aspx>